

Notice of Allowability

Application No.

10/768,660

Examiner

Thinh T. Nguyen

Applicant(s)

HILL ET AL.

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/26/2005.
2. ☒ The allowed claim(s) is/are 2-7, 9-16 and 18-20.
3. ☒ The drawings filed on 02 February 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

David Nelms
Supervisory Patent Examiner
Technology Center 2800

DETAILED ACTION

Reason for allowance

1. Claims 2-7,9-16,18-20 are allowed. The following is an examiner's statement of reason for allowance:

I/ Group I: Claims 2-7:

None of the references of record teaches or suggests the claimed **ISOLATED FINFET P-CHANNEL/N-CHANNEL TRANSISTOR PAIR** having the limitations:

- "a fin structure comprising a semi-conducting material. the fin structure including a channel stop layer, wherein the channel stop layer has a retrograde channel concentration profiles a source region formed at one end of the fin structure, the channel stop layer separating the source region into a first source region and a second source region.

a drain region formed at an opposite end of the fin structure. the channel stop layer separating the drain region into a first drain region and a second drain regions "--

and all other limitations as recited in claim 1.

II/ Group II: Claims 9-16:

None of the references of record teaches or suggests the claimed **ISOLATED FINFET P-CHANNEL/N-CHANNEL TRANSISTOR PAIR** having the limitations:

- “a fin structure that includes a retrograde channel stop layer that extends a length of the fin structure and is positioned approximately in a center of the fin structure.

a source region formed at one end of the fin structure, the retrograde channel stop layer separating the source region into a first source region and a second source region a drain region formed at an opposite end of the fin structure. The retrograde channel stop layer separating the drain region into a first drain region and a second drain region, wherein the retrograde channel stop layer has a retrograde channel concentration profile. “--

and all other limitations as recited in claim 9.

III/ Group III: Claims 18-20:

None of the references of record teaches or suggests the claimed **ISOLATED FINFET P-CHANNEL/N-CHANNEL TRANSISTOR PAIR** having the limitations:

- “A semiconductor device comprising
an N-channel device including a first source regions a first drain region, a first fin structures and a gates and a P-channel device including a second source region, a second drain region, a second fin structure. and the gate. the second source region the second drain region, and the second fin structure being separated from the first source region. the first drain region. And the first fin structure by a

channel stop layer, wherein the channel stop layer has a retrograde channel concentration profile. “—
and all other limitations as recited in claim 18.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance”.

Conclusion

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thinh T Nguyen whose telephone number is 571-272-1790. The examiner can normally be reached on Monday-Friday 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, David Nelms can be reached at 571-272-1787. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9319 for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval [PAIR] system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR

only. For more information about the PAIR system, see [http://pair-](http://pair-direct.uspto.gov)

[direct.uspto.gov](http://pair-direct.uspto.gov). Should you have questions on access to the Private PAIR system,

contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thinh T Nguyen



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